BUILDING OCCUPANCY RESUMPTION PROGRAM

After a major earthquake involving damage to Sunnyvale buildings, it is important that buildings are inspected prior to being re-occupied in order to ensure they are safe. The Building Division inspectors and volunteer certified inspectors will complete post-earthquake inspections on damaged buildings in accordance with the ATC-20 Postearthquake Safety Evaluation of Buildings. Once inspected, buildings will be tagged as Inspected (allowed to re-occupy without restrictions), Restricted Use (allowed to re-occupy with restrictions to areas or hours), or Unsafe (no occupancy allowed). Depending on the extent of damage to Sunnyvale buildings, it may take several days or weeks for all buildings to be inspected. In order to avoid this potential delay, property owners may submit an application for the Building Occupancy Resumption Program (BORP), which allows private inspectors to perform postearthquake inspections using the ATC-20 standards (referenced in Part F).

Below is information about the BORP requirements and application process. Completed applications can be submitted to the Department of Public Safety Department's Office of Emergency Services, 700 All America Way, Sunnyvale, 94086. Questions and additional information can be obtained by calling (408) 730-7190 or by e-mailing pubsfty@sunnyvale.ca.gov.

Application

Building owners or their authorized representatives may submit a BORP application at any time except during the aftermath of an earthquake resulting in a declared state of emergency. The application submitted to the Public Safety Department's Office of Emergency Services shall include the forms and related documents in the attached application pages.

Once a BORP has been approved it is valid for three years, the building owners are required to do the following:

- Obtain and store emergency earthquake safety and inspection equipment/supplies
- Update inspection plan, supplies, personnel changes, and training as necessary
- Submit triennial renewal form (Part F) before three-year anniversary of initial approval date

Implementation

Upon notification of an earthquake resulting in a declared state of emergency, the building owner is required to initiate the emergency inspection program within 8 hours of daybreak and take the following steps:

A. Contact the Building Division immediately if the building or area (including sidewalk, street, or parking area) presents a public safety hazard or if emergency demolition or shoring permits are needed.
B. Complete the detailed evaluation and report as soon as reasonably possible.
C. Post building (green, yellow, or red) at the main entry of the building or at all entrances of multi-entrance buildings.
D. Take preventive measures to neutralize danger of gas leaks, release of hazardous materials, or other life- safety hazards.
E. At owner's and inspector's discretion, non-structural hazards may be mitigated without a building permit.
F. Submit ATC-20 Detailed Evaluation report signed and dated by prequalified engineer(s)/

architect(s) to the Building Division within 72 hours of the declared state of emergency. If reports are not received by that time, a safety assessment may be made by City inspectors or deputized volunteer inspectors using standard City-wide inspection criteria.

Building Division Verification

The Building Division may perform inspection of a building accepted for the BORP under any of the following conditions:

A. The emergency inspector has reported the building unsafe and has posted it with a red placard.
B. There is reason to believe that unsafe conditions exist.
C. Building owners, tenants, other City agencies, or members of the general public have expressed specific concerns.

Termination

A building may be removed from the Building Occupancy Resumption Program for one or more of the following reasons:

A. Triennial renewal forms are not submitted.
B. Agreement between building owner and inspection team has been terminated.
C. Changes in building or inspection team that do not meet the minimum requirements.

BORP APPLICATION PART A

Program Submittal Checklist

Building Address: _____

Submit the completed application to the Department of Public Safety Department's Office of Emergency Services, 700 All America Way, Sunnyvale, 94086. Questions and additional information can be obtained by calling (408) 730-7190 or by e-mailing pubsfty@sunnyvale.ca.gov.

- ☐ Part A - This checklist, marked by submitter indicating all items submitted
- ☐ Part B - Request for Precertification signed by building owner or owner's authorized agent
- ☐ Part C - Emergency Inspector Authorization - (inspector's signature required)
- ☐ Part D – Emergency Inspection Program Details - completed with all information provided.

******************************City Staff Use*******************************

Accepted by: _____ Date: _____

BORP APPLICATION PART B

Request for Precertification

When used for triennial renewal, complete only if owner has changed during the last three years.

Pre-certification of the building at (address) _____ , Sunnyvale, California, is requested for acceptance in the Building Occupancy Resumption Program.

I certify that:

1. The owner of the building at the above address is:

   Name:_____Phone:_____

2. I am authorized to act as the owner's agent in requesting participation in the program.

3. The enclosed precertification documentation and written emergency inspection program complies with the minimum requirements of the Building Occupancy Resumption Program.

4. Emergency inspectors have been given a copy of the Emergency Inspection Program for the building at the address listed above.

5. Emergency inspectors have been given means of access to all areas of the building at all times of day and night or have been given instructions regarding how to obtain accompanied access.

6. Emergency inspectors have access to the most recent accurate copies of all relevant structural, architectural, and life-safety drawings at all times.

7. All emergency inspectors will receive immediate notification of any changes in factors affecting the emergency inspection program (e.g. changes to structural or life-safety systems, access to buildings, etc).

Typed Name:_____ Phone:_____

Signature:_____ Date:_____

********************************City Staff Use********************************

The pre-certification documentation for this building has been accepted by the Building Division. The building will be placed on the list of buildings for the Building Occupancy Resumption Program.

Accepted by:_____ Date: _____

BORP APPLICATION PART C

Emergency Inspector Authorization

One form is to be completed by each inspector. When used for triennial renewal, complete only for new inspectors.

I request pre-certification as an emergency inspector for the building at: _____, Sunnyvale, California for the following type of emergency inspection:

A. ☐ Structural Inspector

I am a California licensed [ ] engineer [ ] architect License Number:_____

I certify that:

1. I have relevant experience in the design and/or inspection of the following similar buildings:

Building Address	Building Type	# of Stories

2. I am proficient in ATC-20 Detailed Evaluation Procedures and will complete any additional and/or refresher training in a manner consistent with maintaining readiness.
3. I am familiar with the emergency inspection plan and relevant drawings for this building.
4. I accept authorization as an emergency inspector by the City of Sunnyvale, Building Division and will display this form upon request.

B. ☐ Life-safety System Inspector

I certify that:

1. I am familiar with the building life-safety system and have access to relevant drawings.
2. I will report inspection findings to the structural inspector for inclusion in emergency inspection reports.

C. ☐ Elevator Inspection Firm (optional)

I certify that:

1. Employees of my firm are authorized as qualified elevator technicians by the building owner.
2. My firm is familiar with the building elevator equipment, installation, and operation.
3. I will report findings to the structural inspector for inclusion in emergency inspection reports.

Typed Name:_____ Phone:_____

Signature:_____ Date:_____

******************************City Staff Use*******************************

The structural engineers shown above are deputized as emergency inspectors for the above-listed building by the City of San Jose, Building Division and are authorized to post this building with official City post-earthquake safety evaluation placards.

Accepted by:_____ Date:_____

BORP APPLICATION PART D

Emergency Inspection Program Details

A. Emergency Inspectors

1. Licensed engineers/architects retained for Structural Inspection:

Name	Address	E-mail Address	Work Phone	Cell Phone	Home Phone
Primary:					
Alternate:					

2. Staff building engineers:

Name	Address	E-mail Address	Work Phone	Cell Phone	Home Phone
Primary:					
Alternate:					

3. Life-safety system inspectors, if required:

Name	Address	E-mail Address	Work Phone	Cell Phone	Home Phone
Mechanical:					
Electrical:					

4. Elevator firm, if elevator inspection required:_____

Name	Address	E-mail Address	Work Phone	Cell Phone	Home Phone
Primary:					
Alternate:					

B. Building Information

1. Attach a photograph of the building including the front elevation
2. Address:_____
3. Description of building:
   a. Date of original construction:_____
   b. Number of stories beginning at ground floor:_____
   c. Number of levels below ground:_____
   d. Building height:_____ feet and total square footage:_____square feet
   e. Dimension of ground floor footprint: _____feet X _____feet
4. Estimated current building valuation: $_____
5. Number of entrances for which placards are requested:_____
6. Estimated number of occupants:_____
7. Listing of building use(s):_____

8. Description of structural system & materials:_____
_____
_____
_____

9. Description of life-safety system including location of emergency power generator:_____
_____
_____
_____

10. Description of building fire detection and suppression systems:_____
_____
_____
_____

11. Description and locations of potential falling hazards:_____
_____
_____
_____

12. Information about hazardous material, including known friable asbestos-containing materials:

    a. Location:_____ Type:_____
       Handling instructions:_____

    b. Location:_____ Type:_____
       Handling instructions:_____

C. Emergency Response Requirements and Information

1. Trigger for activation of emergency response:_____

2. Access procedures and/or keys for entrance to the site and all building areas:_____

3. Location of equipment and supplies:
   a. Drawings (structural, architectural, life-safety); Emergency Inspection Plan; evacuation plan; green, yellow & red official City safety assessment placards (one of each color for each building entrance); inspection report forms for owner; ATC-20 Detailed Evaluation forms:____
   b. Hard hats, gloves, safety glasses, respirators, flashlights, tape measures, micrometer, hammer, screwdriver, and "walkie-talkies" or other two-way emergency communication equipment:_____
   c. Ladders or other equipment needed for inspection access:_____
   d. Caution tape, barricades: _____
   e. Other necessary equipment or supplies:_____

4. Location of emergency inspection plan and on-site drawings:_____

D. Emergency Inspection Plan

Please attach inspection guidelines for the building which are consistent with ATC-20 *Procedures for Postearthquake Safety Evaluation of Buildings* including Detailed Evaluation Procedure. The emergency inspection plan must include the following:

1. A detailed evaluation procedure. Recommended methodology for welded steel joint inspection is FEMA 352. For special inspection or materials testing, use only agencies recognized by the City of Sunnyvale; a current list is available at www.SunnyvaleBuilding.com.
2. Detailed instructions specifying priority of building areas and elements to inspect, and how to access those areas for inspection.
3. Detailed instructions regarding how to inspect specific structural and non-structural elements and how to assess observed damage.
4. Detailed instructions regarding additional inspection procedures to be performed following aftershocks.
5. Optional: Placement of accelerometers. Instrumentation is recommended as part of an Emergency Inspection Program for all highrise buildings in Sunnyvale. Correct placement of accelerometers can provide valuable post-earthquake information about the performance of a building. This option may be considered in certain cases as a means of reducing the percentage of joints required to be inspected after an earthquake.

BORP APPLICATION PART E

ATC-20 Detailed Evaluation Method and Report Forms

The *ATC-20 Postearthquake Safety Evaluation of Buildings* Detailed Evaluation Method is provided below for reference only. As part of the BORP, copies of the most current version of this publication are to be supplied on-site. Copies of the most current version of this publication should be ordered through the Applied Technology Council, 555 Twin Dolphin Drive, Suite 500, Redwood City, CA 94065, (650) 595-1542 or on-line at www.atcouncil.org.

4 Detailed Evaluation Method

The Detailed Evaluation method is primarily used to determine the safety of buildings posted LIMITED ENTRY after Rapid Evaluation. The method is intended to provide reasonable assurance that a building, although damaged, is sufficiently safe to use. Detailed Evaluation is also used to evaluate essential facilities, in lieu of Rapid Evaluation, whenever damage is suspected.

Ideally, a Detailed Evaluation will be carried out by a team of at least two structural engineers. In the aftermath of a large quake, however, this may not always be possible. One alternative is the use of a team consisting of a structural engineer and a building inspector.

Detailed Evaluation Criteria

The chapters listed below provide guidance on making Detailed Evaluations of various types of buildings as well as evaluating geotechnical hazards and nonstructural elements. Specific safety concerns for each building type are listed and advice is given on rating their safety significance (e.g., a badly cracked unreinforced masonry building is to be posted UNSAFE).

Building Type or Item	*Chapter*
Wood Frame	5
Masonry	6
Tilt-up	7
Concrete	8
Steel Frame	9
Geotechnical Hazards	10
Nonstructural Elements	11

After identifying the building type or item to be inspected, refer to the corresponding chapter for guidance in evaluation and posting.

The damage inspection guidelines given in chapters 5 through 11 require the use of ***judgment***. Under some circumstances the posting actions recommended (e.g., UNSAFE) may not be warranted, and use of a less restrictive posting (e.g., LIMITED ENTRY, AREA UNSAFE) or other action may be appropriate. Avoid imposing unwarranted hardship on owners and occupants of damaged buildings, but always avoid exposing occupants to unnecessary risk.

When the Structural System Is Not Viewable

Architectural elements such as walls and ceilings conceal the structural system of most buildings. When serious damage is suspected and not enough of the structural system is viewable to permit a reliable evaluation, post the building LIMITED ENTRY or UNSAFE and inform the occupants that they must evacuate the premises. If possible, inform the owner that he or she must do one of the following:

(1) Arrange for demolition or removal of walls, plaster ceilings and other architectural finishes to permit completion of the evaluation; or

(2) Arrange for an Engineering Evaluation.

Posting Criteria

A general description of building condition corresponding to each posting category (INSPECTED, LIMITED ENTRY, UNSAFE) is given in Table 2.2. The following supplemental criteria are to be used in conjunction with a Detailed Evaluation:

"INSPECTED". To post a structure INSPECTED, which indicates that there are no restrictions on use or occupancy, the following conditions must be satisfied:

1. Original vertical load capacity has not been significantly decreased, and there are no potential instabilities present (e.g., floor- wall separations).
2. Original lateral load capacity has not been significantly decreased.
3. No falling or other hazards are present, unless these have been appropriately posted or barricaded.
4. No evidence of significant foundation damage or ground displacement is present.
5. Main exits are operable and accessible.
6. No other apparent unsafe condition exists.

"LIMITED ENTRY" denotes a structure about which the inspector has:

1. Serious doubts about its safety which can only be resolved by an Engineering Evaluation; or
2. Uncertainty about the possibility of further damage due to geologic hazards; or
3. Uncertainty about the presence of other hazards (*e.g.*, possible toxic material release).

"UNSAFE" structures have:

1. Obvious safety hazards; or
2. Degree of damage such that they are believed to be in danger of collapse from either static conditions or an aftershock; or
3. Other unsafe condition (*e.g.*, massive toxic spill).

Inspection Procedure

A Detailed Evaluation is a thorough visual examination of a damaged building, inside and out. It consists of a number of steps as summarized below.

STEP 1: *Survey the Building from the Outside*

a. Try to determine the structural system.
b. Examine the structure on all accessible sides for damage, particularly at vertical discontinuities (Figure 4.1) and at irregular configurations in plan (Figure 4.2).
c. Look for racking of exterior walls, broken glass and other signs of excessive drift.
d. Examine exterior nonstructural elements, such as cladding, parapets, signs, and ornamentation, for damage before entering the building.
e. Look for new fractures in the foundation or exposed lower walls of the building.

STEP 2: *Examine the Site for Geotechnical Hazards*

a. Look for fissures, bulged ground, and vertical ground movements in the area.
b. In hillside areas, examine the area for landslide displacement or debris encroaching onto the site.
c. Remember that geotechnical hazards can extend over an area of several buildings or more.
d. When geotechnical hazards are suspected, a Detailed Evaluation must be made by a team including a geotechnical engineer or geologist.

STEP 3: *Inspect the Structural System from Inside the Building*

a. Before entering building, look for falling or collapse hazards. Do not enter obviously unsafe buildings.
b. Ceiling panels may be removed to view the structural system, but any destructive exploration must be done only by the owner.
c. Look in stairwells, basements, mechanical rooms, and other exposed areas to view the structural system.
d. Examine the vertical-load-carrying system. Look for situations where a column may show signs of failure, where the floor or roof framing has begun to pull away from its vertical supports, or where the slab or beam system has failed or begun to fail.
e. Examine the lateral-load-carrying system. Any residual story drift means some structural damage has been sustained.
f. Inspect the basement for fractures and uneven settlement. Also inspect basement floors and exterior walls for cracks and bulges.
g. Examine every floor, including basement, roof, and penthouse.

STEP 4: *Inspect for Non-structural Hazards*

a. Inside the building, look for damage to nonstructural elements such as ceilings, partitions, light fixtures, roof top tanks and other appendages. If cladding damage suspected, inspect representative connections. See Chapter 11 for further guidance.

STEP 5: *Inspect for Other Hazards*

a. If damage is suspected, elevators should not be restarted without inspection by a qualified person.

b. Look for spills or leaks in areas of stored chemicals or other hazardous materials.
c. If damage to fire protection and detection equipment is observed, it may be necessary to restrict building use. Notify local fire department
d. Inspect stairs for structural stability and exits for jammed doors and obstructions.

STEP 6: *Complete Checklist and Post Building*

a. Evaluate the structure and complete the Detailed Evaluation Form (Figure 4.3). Indicate if shoring or bracing or other action is needed.
b. Post the structure according to the results of the evaluation. Use one of the three placards (INSPECTED, LIMITED ENTRY, or UNSAFE). Post every entrance to a building classified as LIMITED ENTRY or UNSAFE.
c. Explain the significance of UNSAFE and LIMITED ENTRY postings to building occupants, and advise them to leave immediately. Areas designated AREA UNSAFE must also be evacuated.

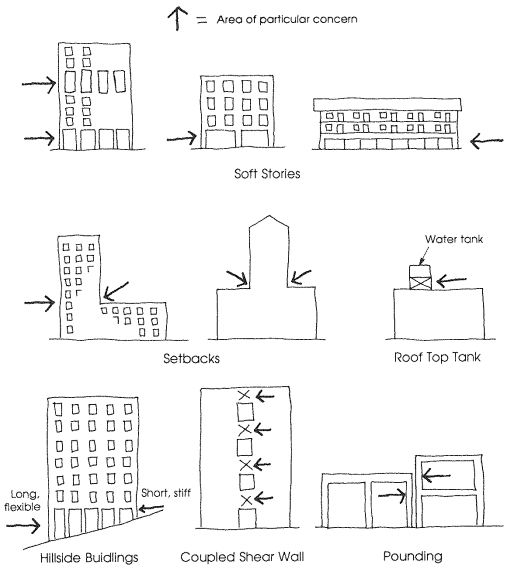

Figure 4.1 Structural systems with vertical discontinuities or irregularities.

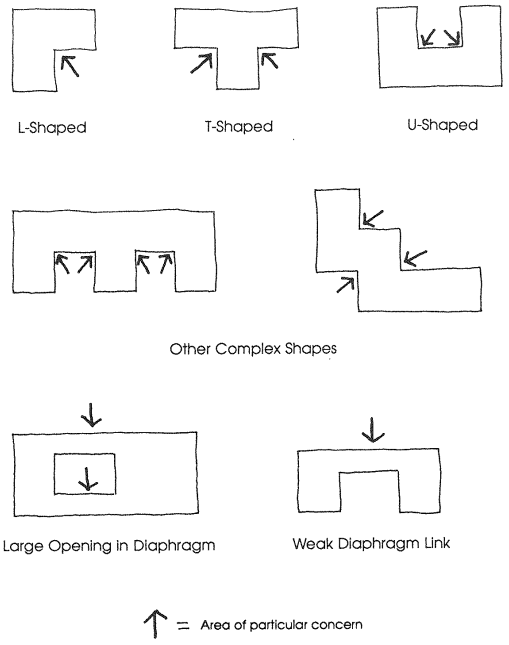

Figure 4.2 Buildings with irregular configurations in plan.

Block_____ Parcel No._____

ATC-20 Detailed Evaluation Safety Assessment Form

BUILDING DESCRIPTION:
Name: _____
Address: _____
No. of Stories: _____
Basement: Yes ☐ No ☐ Unknown ☐
Approximate Age: _____Years
Approximate Area:_____Square feet

Structural System:
Wood Frame ☐ Unreinforced Masonry ☐
Reinforced Masonry ☐ Tilt-up ☐
Concrete Frame ☐ Concrete Shear Wall ☐
Steel Frame ☐ Other _____

Primary Occupancy:
Dwelling ☐ Other Residential ☐ Commercial ☐
Office ☐ Industrial ☐ Public Assembly ☐
School ☐ Government ☐ Emer. Serv. ☐
Historic ☐ Other _____

OVERALL RATING: *(Check One)*
INSPECTED (Green) ☐
LIMITED ENTRY (Yellow) ☐
UNSAFE (Red) ☐

INSPECTOR:
Inspector ID _____
Affiliation _____

INSPECTION DATE:
Mo/day/year _____
Time _____ am pm

Instructions: Complete building evaluation and checklist on next page and then summarize results below.

Posting:	*Existing*	*Recommended*
None	☐	
Inspected *(Green)*	☐	☐
Limited Entry *(Yellow)*	☐	☐
Unsafe *(Red)*	☐	☐

Posted at this Assessment:
☐ Yes ☐ No
Existing posting by: _____

Recommendations:
☐ No further action required
☐ Engineering Evaluation required (circle one) Structural Geotechnical Other_____
☐ Barricades needed in the following areas: _____
☐ Other *(falling hazard removal, shoring/bracing required, etc.)*: _____

Comments *(Why posted Unsafe, etc.)*: _____

Sheet ____ of ____

Figure 4.3 Detailed Evaluation Safety Assessment Form (Side one)

ATC-20 Detailed Evaluation Safety Assessment Form (Continued)

Instructions: Examine the building to determine if any hazardous conditions exist. A "yes" answer in categories 1, 2, or 4 is grounds for posting building UNSAFE. If condition is suspected to be unsafe and more review is needed, check appropriate Unknown box(es) and post LIMITED ENTRY. A "yes" answer in category 3 requires posting and/or barricading to indicate AREA UNSAFE. Explain "Yes", "Unknown" findings and extent of damage under "Comments."

Condition	Hazardous Condition Exists: *Yes*	*No*	*Unknown*	*Comments*
1. *Structure Hazardous Overall*				
Collapse/partial collapse	☐	☐	☐	
Building or story leaning	☐	☐	☐	
Other_____	☐	☐	☐	
2. *Hazardous Structural Elements*				
Foundations	☐	☐	☐	
Roof/floors (vertical loads)	☐	☐	☐	
Columns/pilasters/corbels	☐	☐	☐	
Diaphragms/horizontal bracing	☐	☐	☐	
Walls/vertical bracing	☐	☐	☐	
Moment frames	☐	☐	☐	
Precast connections	☐	☐	☐	
Other_____	☐	☐	☐	
3. *Nonstructural Hazards*				
Parapets/ornamentation	☐	☐	☐	
Cladding/glazing	☐	☐	☐	
Ceilings/light fixtures	☐	☐	☐	
Interior walls/partitions	☐	☐	☐	
Elevators	☐	☐	☐	
Stairs/exits	☐	☐	☐	
Electric/gas	☐	☐	☐	
Other_____	☐	☐	☐	
4. *Geotechnical Hazards*				
Slope failure/debris	☐	☐	☐	
Ground movement, fissures	☐	☐	☐	
Other_____	☐	☐	☐	

SKETCH:

Sheet ____ of ____

Figure 4.3 Detailed Evaluation Safety Assessment Form (Side two)

BORP APPLICATION PART F

Triennial Program Renewal

To be submitted triennially before the anniversary of the original approval date.

Building Address:_____

Estimated current building valuation is $_____

☐ No change has been made in the building or any element of emergency inspection program.

☐ All emergency equipment and supplies for the program have been checked and updated as necessary.

☐ The building owner has changed. The new owner is _____. A Request for Precertification form signed by the new owner is enclosed.

☐ Emergency inspectors/contact information has changed. Completed Emergency Inspector Authorization forms for new inspectors are enclosed.

☐ Changes have been made to the building that affects the Emergency Inspection Program. Emergency inspectors have been given revised drawings of all relevant changes to the building.

☐ Emergency inspectors have been given a copy of all Emergency Inspection Program revisions.

Typed Name:_____ Phone:_____

Signature:_____ Date:_____

******************************City Staff Use*******************************

The updated documentation for this building has been accepted by the City of Sunnyvale. The subject building will remain on the list of buildings with an approved Building Occupancy Resumption Program.

Accepted by:_____ Date: _____